2. Introduction

2.1. William

2.1.1. Product Features

2.1.2. Specification

Processor* and Motherboard	
CPU	Intel CloverTrail Intel® Cloverview 1.5GHz (Burst 1.8Ghz)
Vendor	INTEL
Cache	L2 : 512KB
Chipset	N/A
	* Chipset is N/A because the structure that PCH is included CPU and the Cloverview project composes One-Chip.
BIOS	Firmware partition in eMMC
Thermal Sensor	N/A
Socket	POP 760
Preliminary TDP	All 17W
Memory*	[on-board type]
Maximum Capacity	MAX. 2GB
Type (MHz)	LPDDR2 PoP (1066Mbps) , 800Mhz [Max Spec]
Modules	N/A
Sockets	On Board (Max. 2GB, NO upgrade available)
Upgradeable by users	No
Vendor	SAMSUNG
	※ Mobile DDR (also known as mDDR, Low Power DDR, or LPDDR) is type of double data rate synchronous DRAM for mobile computers.
Display and Graphics*	
LCD	11.6" [Capacitive Touch Type],Not Tempered glass
Ratio	16:9
Surface Type	Non-Glare
Back Light	LED
Interface	MIPI
	※ Mobile industry processor interface
Vendor	AUO [BA59-03485A]
Resolution (Number of Pixel)	HD (1366x768) Win8 Support (1366x768,1360x768,1280x768,1280x720,1280x600,1024x768,800x600)
Viewable Area	256.12(H) X 144.0(V)
Viewing angle	Hor. +89/-89, Ver. +89/-89
Pixel Pitch	0.1875(H) x 0.1875(V)
Contrast Ratio	Typ. 800
Brightness	Typ. 400 (cd/m2)
Colors	16.2M (RGB-6bit+FRC)
Response time	Typ. 25ms
The maximum opening angle	120˚
Graphics Controller 1	Intel SGX545 Graphics

GPU TDP	Max.17W (CPU Integrated)
Video memory	Shared memory (Int)
Max. resolution for VGA	VGA is not supported
Max. resolution for HDMI	Support v1.4a compliant
	(*1080P) (640x480, 720x480, 1024x768, 1280x720, 1280x960, 1280x1024,
	1400x1050, 1600x900, 1600x1200, 1680x1050, 1920x1200)
Max. Resolution for LFP LVDS	Supported resolution (1366x768, WXGA) 640 by 480, True Color (32bit), 60Hz,800 by 600,
	True Color (32bit), 60Hz 1024 by 768, True Color(32bit), 60Hz,1280 by 720,
	True Color(32bit), 60Hz 1366 by 768, True Color(32bit), 60Hz
Multimedia	
Sound	High Definition Audio
Codec	I2S Interface Audio Codec
Vendor	Realtek
Chipset	Inter Clover Trail
Controller	Multi-Channel Audio Hub/CODEC with embedded Voice DSP, ALC5642-CGT
Conversion	Built-in high performance 24-bit ADC & 24-bit DAC
Internal Interfaces	Embedded stereo speakers, Internal Digital Array Mics
Speaker Power Rating	2 Speakers x 0.64 Watt with enclosure each
External Interfaces	Headphone/Microphone Combo, Not Support S/PDIF (4pole : MIC/GND/SPK/SPK =)
Controls	volume button control
Microphone	
Type	Array Mic : DIGITAL SMD type dual array mic (Main board)
Sensitivity	-26dBFS [94dB SPL @ 1kHz]
S/N Ratio	60.5dB
Front Camera	
Image sensor	2 Mega CMOS Color Image Sensor
Still Image Capture Resolution	1920*1080(Max.), 1280*960, 1280*720, 640*480
Video Capture Resolution	1920*1080(Max.), 1280*720, 960*540, 640*480, 640*360, 448*252
Frame Rate	30fps @ HD, 24MHz MCLK
Output Video Format	
Interface	MIPI 1Lane (750Mbps~1Gbps)/
UVC Support	Not Supported
Vendor	Namuga_BA59-03389A
Photo Capture size	640x480(88KB), 1280x720(177KB), 1280x960(236KB), 1920x1080(370KB)
Rear Camera	
Image sensor	8 Mega CMOS Color Image Sensor
Still Image Capture Resolution	3264*2448(Max.), 2560*1920, 1600*1200, 1920*1080, 1280*960, 1280*720, 640*480
Video Capture Resolution	1920*1080(Max.), 1280*720, 960*540, 640*480, 640*360, 448*252

Frame Rate	30fps @ HD, 24MHz MCLK
Output Video Format	
Interface	MIPI 4Lane (1Gbps x4, Max 4Gbps)
UVC Support	Not Supported
Vendor	Lite-on_BA59-03280A
Photo Capture size	640x480(88KB), 1280x720(177KB), 1280x960(236KB), 1600x1200(301KB),
	1920x1080(370KB), 250x1920(833KB), 63264x2448(1.15MB)
	※ Mobile industry processor interface
Storage*	
Hard Disk Drive	N/A
Supports	
Average Access Time	
Interface	
Speed	
Capacity	
Vendor	
Weight	
Solid State Drive	N/A
Supports	
Average Access Time	
Interface	
Speed	
Capacity	
Vendor	
Weight	
embedded MultimediaCard	on-board type
Average Access Time	Read 100ms, Write 250ms
Interface	EMMC 4.4.1
Speed	up to 52MB/s
Capacity	64GB (Max)
Vendor	1107-002182 SANDISK,1107-002114SAMSUNG
	* eMMC means a kind of storage not SATA interface but eMMC interface
Network Tools	
LAN	N/A
Controller	
Vendor	
Features	

Wireless LAN	SWB-B42G [WiDi not support],Bluetooth 4.0
Module	802.11a/b/g/n 1x1 WLAN and BT4.0 + LE Combo
Interface	SDIO(Wireless LAN), UART(Bluetooth)
Chipset	BCM4330(Wireless LAN + Bluetooth)
Max. Link Speed	Rx : 65Mbps, Tx : 65Mbps
	(Link Speed is only standard value, Actually value will decided by each environmant)
Antenna	1 Antenna Support : WLAN (1Tx/Rx)
Vendor	Broadcom
Mobile Internet(Option)	
3G	Huawei MU733 (Vendor : Huawei) Max. Speed - DL: 21.6Mbps/UL: 5.78Mbps
4G	Sierra EM7700 (Vendor : Sierra) Max. Speed - DL: 100Mbps/UL: 50Mbps
Antenna	1 Antenna Support : TX1, RX1
Near Field Communication (NFC)	(Option)
Controller	PN5441A2ET/C3
Certification	RF Certification
Interface	I2C
Antenna	Loop Antenna (Tx1, Tx2)
Vendor	Amotech
Max. Data Rate	424Kbps
I/O Interface	
Memory Card Reader	Micro SD(micro sdhc) : Max.32Gb
	※ Micro SDXC : Max.64Gb →Not Support
Express Card Slots	N/A
I/O Ports	
USB Port	1 x USB 2.0 port (Not support Chargeable port)
VGA Port	N/A (VGA Adapter Support : Option, Name : AA-AH2NMHB , Code : BA39-01228A, Rev01 **" Jones/William common "**
	※ **micro HDMI to HDMI cable to connect the screen choppy, can occur.**
Audio Jacks	HeadPhone-out, MIC-in Combo (4pole : MIC/GND/SPK/SPK =)
Wired LAN	N/A
HDMI	1 x uHDMI
	VGA Adapter Support : Option, Name : AA-AH2NMHB , Code : BA39-01228A, Rev01
	" Jones/William common "
	※ **micro HDMI to HDMI cable to connect the screen choppy, can occur.**
	micro HDMI to VGA Dongle 640 by 480, True Color (32bit), 60Hz/640 by 480,
	True Color (32bit), 73Hz 640 by 480, True Color (32bit), 75Hz/720 by 480, True Color (32bit), 59Hz 720 by 480,
	True Color (32bit), 60Hz/800 by 600, True Color (32bit), 60Hz 800 by 600, True Color (32bit),

	72Hz/800 by 600, True Color (32bit), 75Hz 1024 by 768, True Color(32bit), 60Hz/1024 by 768,
	True Color(32bit), 70Hz 1024 by 768, True Color(32bit), 75Hz/1152 by 864,
	True Color(32bit), 75Hz 1191 by 670, True Color(32bit), 60Hz/1280 by 720,
	True Color(32bit), 60Hz 1280 by 960, True Color(32bit), 60Hz/1280 by 1024,
	True Color(32bit), 60Hz 1280 by 1024, True Color(32bit), 75Hz/1440 by 900,
	True Color(32bit), 60Hz 1440 by 900, True Color(32bit), 75Hz/1680 by 1050,
	True Color(32bit), 59Hz 1680 by 1050, True Color(32bit), 60Hz/1786 by 1005,
	True Color(32bit), 30Hz (Interlaced) 1786 by 1005,
	True Color(32bit), 30Hz/1786 by 1005, True Color(32bit), 60Hz 1920 by 1080,
	True Color(32bit), 30Hz (Interlaced)/1920 by 1080,
	True Color(32bit), 30Hz 1920 by 1080, True Color(32bit), 60Hz
Security Slot	N/A
Power	1 x DC-in jack for AC adapter Power Jack pie : 2.5pie
Input Devices	
Touchpad	Buttonless Touchpad (Keyboard Dock)
└Size	85.6(W) x 48.1(H) x 1.0(T) mm
LED Indicator	Power
TSP	
Type	Projective Capacitive
Sensitivity	Φ3 ±1.0
Touch Point	10 Finger
Reporting Rate	=100Hz
Digitizer	
Resolution	2540ppi
Pressure Resolution	1024Level
Position Report Rate	130Hz
Detactable Height	4~20mm
Pen (AA-DP2N65B)	5.5/6.5 pie x 104mm, POM Tip, Slate Built-in
└Size,Weight	6.5mm x 104mm,4.20 ±0.21g
└Vendor	WACOMM
└Code	AA-DP2N65B
Button	Power, Rotation Lock, Volume+/-, Home
Sensors	ALS(CM3218), ACCELAROMETER&COMPASS(LSM303DLHCTR),
	GYRO(K3GTR) , PROXIMITY, GPS(BCM47511 GNSS geolocation sensor)
	※Accelerometer : Acceleration sensor(Change measuring of distance)
	Compass : Earth Magnetic Field sensor
	Gyro : Angular Velosity sensor(Playing game with degree lean),

	Proximity : Proximity sensor(Display off when approaching the objects)
Security Solutions	
TPM (Option)	Trusted Platform Module 2.0
Interface	Cloverview built-in
Controller	Intel Clovertrail fTPM 2.0
Vendor	Intel
Application	
Finger Print Reader	N/A
Interface	
Controller	
Vendor	
Application	
Sensors	
Power and Power Management	
System power management	
Power management features	ACPI compliant S0 ~ S0i3, Connected Standby
	C1~ C6 Mode
Standard battery	
Model code	AA-PBZN2TP
Type	Li-Polymer
Details of cell	2 cells
Battery capacity	4080mAh
Battery rating	30.7Wh
Voltage	7.5V
Color	N/A
Dimension	246.2 x 84.6 x 3.75mm (W x D x H)
Weight	approximate 160g(TBD)
Recharging Time	approximate 3 hours
Vendor	SDI
AC Adapter	
Model Name	A12-040N1A
Output Power	40W
Dimension	92.5 x 38.5 x 27.5mm (W x H x D)
Weight (AC Adapter)	175g (Max)
Worldwide Compatibility	Auto-sensing 100 - 240VAC
Line Frequency	50 / 60Hz
Adapter Rating - Input	100 VAC ~ 240 VAC, 1 A
Adapter Rating - Output	12.0VDC / 3.33A

	William(40W 12V)≠ Nike-tab(40W 19V) "Can't use Nike tab Adapter"
System Dimensions	
Pyxical Information	
Dimensions (W X D X H)	304.0 x 188.4 x 9.0 T
Weight	753.65G
- Condition	Full System with 2cell Battery
Package dimensions (W x D x H)	(Without Keyboard Dock) 227 * 70 * 348 mm 1603.15g
Design	
LCD Back	PC
LCD Front	Frame : Mg. + PAGF Double Injection / Glass : Corning Gorillia Glass
System Top	N/A
System Bottom	N/A
Accessories	
Accessories in the box	Adapter, Power Code, Installation Guide(paper), Digitizer Pen
Pouch	Support (Option)
XP	
	Not Support
OS	
Operating system	Win8 32bit
Label Location	

2.1.3.   Comparing product specifications

	William	Nike-Tab
Design		
OS	Windows8	Windows7
Display	11.6"(16:9) LED 400nit	11.6", 400nit PLS
Resolution	1366x768(HD)	1366x768(HD)
Platform	Intel Clover Trail	Intel HRV ULV
Memory	2GB	2GB / 4GB DDR3
Storage	64GB	Up to 128GB
Battery	4080mAh : 2 cells	41Wh(6.6Hrs)
Camera	Front Camera : 2 Mega Rear Camera : 8 Mega	2M 3M AF
Port	Head Phone-out, MIC-in Combo, 1 x Micro HDMI 1 x DC-in jack for AC adapter Docking Ports	1xUSB Audio(HP, Mic), Micro HDMI, DC-in Dock Port
Comm.	SWB-B42G (NFC) : PN5441A2ET/C3 HSPA,3G/LTE	HSPA/Wimax(opt.) 802.11a/b/g/n BT 3.0 HS
Size(mm)	304.0 x 188.4 x 9.0mmT	296.1 x 184.0

2.1.4. Function of Product

Front View

The pictures used for the cover and the main body in the User Manual are those of the representative model of each series. Therefore the colors and appearance of the pictures may differ from the actual appearance of the product depending on the model.

1	Illumination Sensor	Using the illumination sensor, the LCD screen brightness is automatically adjusted depending on the ambient illumination. If you cover the illumination sensor with your hand, the LCD screen will become dimmer. Therefore, please take care that you do not cover the sensor when you use the computer.
2	Camera operating indicator	This indicates the camera operating status.
3	Camera (Optional)	Using this camera, you can take still pictures and record video. You can take a picture or make a movie using the **Charms** > **Start** > **Camera**.
4	Speaker	A device used to generate sound.
5	Touch Screen	This is a touch screen that shows the output from the computer.
6	Home button	Switches the screen between the **Start screen** and the currently running **app/program**. If no app/software is currently running, the Desktop is displayed.

Right View
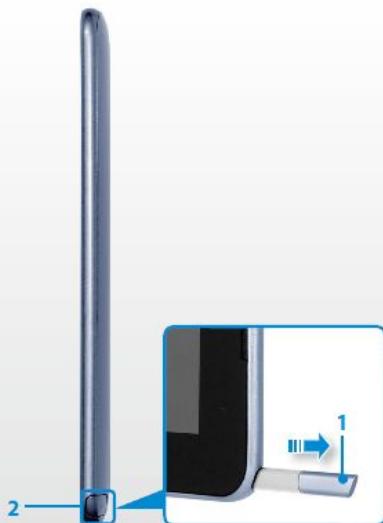
1	Digitizer Pen	A pen used to enter information on the touch screen.
2	Digitizer Pen Slot	You can keep the digitizer pen in the digitizer slot.

Left View

1	**Volume Control Button**	Controls the volume.
2	**Micro Digital Video / Audio Port (Micro HDMI)** HDMI	This is the port for a micro HDMI. You can enjoy digital video and audio by connecting the computer to a TV. 📝 You can connect a VGA adapter (optional).

※ VGA Adapter(Micro HDMI to HDMI) connect : Video only comes.

Top View

1	**Ear-set / headset Jack** 🎧	This is the jack for connecting an ear-set or headset.
2	**Microphone**	You can use the built-in microphone.
3	**Power Button** ⏻	Turns the computer on and off.
4	**Power Button LED**	When the computer is on, the power button LED is lit.
5	**Rotation Lock**	Locks the screen rotation so that the screen does not automatically rotate according to the orientation function of the product.
6	**USB 2.0 Port**	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc.
7	**Micro SD Card Slot**	This slot is for micro SD cards.
8	**SIM Card Slot** USIM (Optional)	This slot is for SIM cards.

* In case of the lock button of screen rotation do not work :
  Please check to executes the Easy Setting S/W in background process.
  (If not, the button do not work -> Execute the Easy Setting application)

2. Introduction

Bottom View

1	DC Jack ⬥-G-⬥	A jack to connect the AC adapter that supplies power to the computer.
2	Dock Connector (Optional)	This connector is for external devices.

Rear View

1	Camera (Optional)	Using this camera, you can take still pictures and record video. You can take a picture or make a movie using the **Charms** > **Start** > **Camera**.
2	NFC Antenna	Provides NFC features for near field communication for various application services.

📝 If you replace the bottom of the product, the model name, serial number and some logos etched into the bottom of the product will no longer be there.

For more information, please ask for assistance from the service center.

Turning the computer on

1 Connect the **AC adapter**.

2 Press the **Power button** to turn the computer on.

3 **Power button LED** is lit while the computer is turned on.

LED

About Windows Activation

When you turn the computer on for the first time, the Windows activation screen appears.

Follow the activation procedures according to the instructions on the screen to use the computer.

Adjusting the screen brightness

When the computer runs on battery power, the LCD brightness is automatically set to low.

1 Slightly drag from the right edge of the screen toward the center to display the **Charms menu**.

2 Increase the bar by pressing the **Settings** ⚙ > **Screen** 🔲 .

Turning the computer off

- Since the procedures to turn the computer off may differ depending on the installed operating system, please turn the computer off according to the procedures for the purchased operating system.
- Save all your data before clicking on **Shut down**.

1 Slightly drag from the right edge of the screen toward the center to display the **Charms menu**.

2 Click **Settings** ⚙ > **Power** ⏻ > **Shut down**.

If you want to power off your computer when you are logged out, unlock the screen and click **Power** ⏻ > **Shut down**.

2.1.5.   New Function

Windows 8

Microsoft Windows 8 (hereafter referred to as Windows) is an operating system that is required for operating a computer.

To use your computer optimally, you need to know how to use it properly. Therefore, It is better to learn how to use Windows by utilizing **Windows Help and Support**.

> • The screen may appear somewhat different depending on the model and the operating system.
> • Since this guide has been prepared based on Windows 8, some of the instructions may differ depending on the version. It may also be modified without prior notice.

Displaying Help

Move the pointer on the screen to the top or bottom right edge of the screen to view the **Charm menu**.

Alternatively, slightly drag the right edge inward with your finger to view the **Charm menu**.

Select **Charm menu > Settings** ⚙ **> Help.**

> If you are connected to the internet, you can access the most recent online Help.
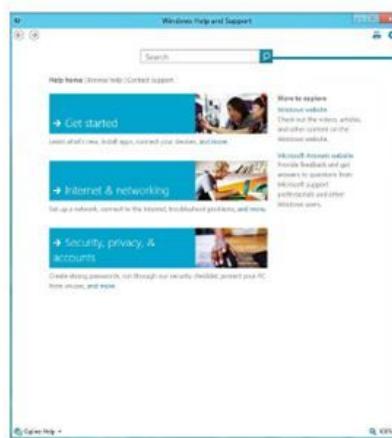
Windows 8 provides both the new **Start screen** mode and the **Desktop** mode of the existing OS.

Start Screen   Desktop

Start Screen

When you turn on the computer, the **Start screen** is displayed, which allows you to use the applications (Application, App, hereafter referred to as an **App**) at the same location.

Searching for Help

Get Started	You can view basic instructions on how to use your computer including new function(s) for the Windows OS.
Internet & networking	After connecting to the network, you can check the Help section required to use the internet.
Security, privacy, & accounts	You can check the Help information required to protect your computer and personal information.

1	Start Screen	Refers to the default Start screen of Windows 8.
2	App	Refers to the apps that are currently installed.
3	Displaying the Charms	The Charms is hidden at the right of the screen. Place your mouse pointer at the edge of the top or bottom right of the screen to display the Charms. Alternatively, slightly drag the right edge inward with your finger to view the Charm menu.
4	User Account	This refers to the currently used user account.
5	Charms	This refers to the menu that allows you to use functions such as Search, Share, Start, Device and Settings.
6	Desktop	Switches to Desktop mode.
7	Camera	Allows you to take pictures or make a movie.

Desktop

This provides similar functions to those provided by the Desktop in prior Windows versions.

1	Desktop	Refers to the Desktop.
2	Displaying the Charms	The Charms is hidden at the right of the screen. Place your mouse pointer at the edge of the top or bottom right of the screen to display the Charms. Alternatively, slightly drag the right edge inward with your finger to view the Charm menu.

The Charms is a new type of menu that combines the Start menu with the Control Panel of existing Windows.

The Charms allows you to quickly configure the device(s) connected to your computer, search for App(s)/file(s), and use the sharing function, etc.

Activating the Charms

Slightly drag the right edge inward with your finger to view the **Charm menu**.

Alternatively, tap the top or bottom right edge of the screen to view the **Charm menu**.

3	Charms	This refers to the menu that allows you to use functions such as Search, Share, Start, Device and Settings.
4	Switching to the Start Screen	Click the corner of the bottom left of the screen to switch to the Start screen.

Displaying Documents and Files

Click Windows Explorer in the taskbar on the Desktop to search for documents and files.

Search	If you want to search for a program or file in the App(s)/Settings/File(s), simply enter a keyword in the Search charm and start Search. You can also search within an App or on the Web.
Share	You can use this menu to transfer a picture or file to another user. You can easily share pictures or files with other users simply by associating multiple Apps with the Share charm.
Start	You can move to the Start screen.
Device	As this allows you to move directly to a desired device, you can handle tasks such as importing pictures from a digital camera, streaming a video to your TV or transferring files to a device on the current screen.
Settings	The Settings charm allows you to perform basic tasks such as adjusting the volume, turning off the PC, etc. If you select the Settings charm while a specific App is running, the settings for the currently running App are displayed.

Changing the Settings

Frequently used Windows menus are collected.

Click the **Charms** > **Settings**.

Icon	Name	Function Description
	Wireless Network	You can connect to a wireless network. Select a wireless network to connect to.
	Adjusting the Volume	You can adjust the volume or mute the sound.
	Screen	You can adjust the screen brightness.
	Notice	You can set the interval at which an App sends notices.
	Power	You can turn off your computer or select the Power Options.
	Keyboard	You can set the Language or launch Touch keyboard.

Change PC settings

You can change more settings.

An App refers to an application program (hereafter referred to as an **App**). In a larger sense, it refers to all the software programs installed on the operating system.

Windows 8 provides basic Apps for frequently performed tasks.

Starting/Exiting an App

Click on an App in the Start screen to activate it.

To exit the App

1 Move your mouse pointer to the top of the screen.
Your mouse pointer changes to a **hand shape**.

2 Click and hold your mouse button and then drag it to the bottom of the screen. The App moves downward and disappears and exits.

Using Apps

You can use the following function with the mouse.

Displaying Currently Running App(s)

1 Move your mouse pointer to the top left corner of the screen to display the last run App.

2 Then, move your mouse pointer down to display a list of the currently running Apps in order.
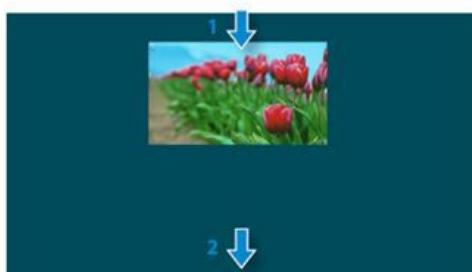
3 Click on an App in that list or drag it to the center of the screen. Now, you can check the selected App which is currently running.

> Right-click over the App in the list and click **Close** to exit the App.

Adding/Removing an App to/from the Start Screen

In the **Start screen**, slightly drag the top edge of the screen inward.

Click **All Apps** at the bottom of the screen to display all the Apps that are currently installed.

1 If you right-click over the App to be added, the relevant menu is activated at the bottom of your screen.

2 Click **Pin to start** or **Unpin from Start**.

Ex) When removing an App in the Start screen

Running Two Apps at the Same Time

1 Select the **Apps** in the **Start screen**.

2 Move your mouse pointer to the top of the screen. Your mouse pointer changes to a **hand shape**.

3 If you click and hold your mouse button and move left or right, you can split the screen to display multiple Apps.

4 Move the **Screen Split Bar** to change the screen split ratio. Supported screen split ratios are 3:7 or 7:3.

Ex) If you run the Weather App and Store App at the same time

Using the Windows Store

If you run the App Store in the Start screen, the Apps in the Windows Store are displayed.

However, a Microsoft account is required to purchase App(s) in the Windows Store.

Continue after registering your Microsoft Account in the Charms.
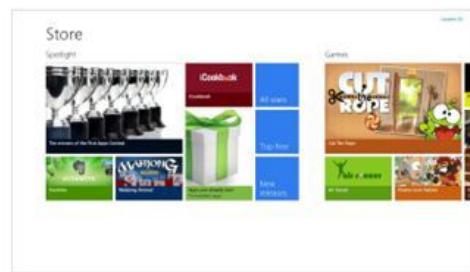
Configuring your Microsoft Account

A Microsoft Account allows you to synchronize your settings with other device(s) running Windows 8 online allowing you to share file(s) or settings.

You should register a Microsoft Account to download or purchase App(s) from the Store.

1 Run the **Charms** and click **Settings** > **Change PC Settings.**

2 Click **Users** > **Your account** > **Switch to a Microsoft account.**

3 Register your account through the following relevant procedures.
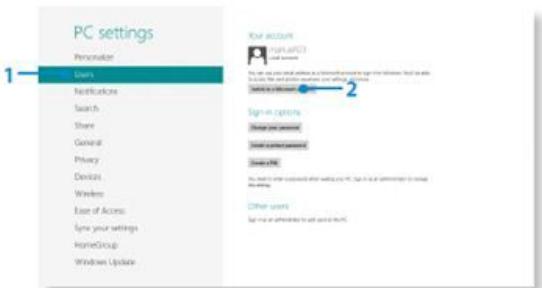
You can use the following convenient hot keys in Windows 8.

> You can use the following function when an external-type keyboard is connected.

Function	Hot Keys	Function Description
Displaying the Start Screen	**Windows Key**	Switches to Start mode.
Displaying the Desktop	**Windows Key + D**	Switches to Desktop mode.
Running the Charms	**Windows Key + C**	Activates the Charms.
Locking the Screen	**Windows Key + L**	Locks the screen.
Opening the Ease of Access Center	**Windows Key + U**	Opens the Ease of Access Center configuration.
Opening the Second Screen Settings	**Windows Key + P**	Opens the External Monitor Settings menu.

Function	Hot Keys	Function Description
Opening the Advanced Management Tool	**Windows Key + X**	Opens the Advanced Management Tool.
Exit App	**Alt + F4**	Exits the currently running App.

Inner Battery

Please refer to the following instructions when running the computer on battery power without connecting the AC power.

This computer is equipped with an internal battery.

> **!** **Precautions**
>
> - **Users cannot remove or replace the internal battery.**
> - **To remove or replace the battery, use an authorized service center in order to protect the product and users. You will be charged for this service.**
> - Use only chargers specified in the User Manual.
> - Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.
> - Please refer to the system operation environment of this manual and operate and store the battery at room temperature.

Before using the computer for the first time, make sure to connect the AC adapter and charge the battery completely.

The location of the **Internal battery**

Charging the Battery

An internal battery is embedded. Connect the AC adapter to the power input jack of the computer.

The battery will start charging.

SoundAlive

Connecting and using a Ear-set / headset Jack

When there is no sound after connecting an earset or headset, configure the settings as follows.

1 On the Desktop, click the **Charms menu > Settings** ⚙ **>
Control Panel > Hardware and Sound > Sound > Play** tab.

2 Select the **Speakers (Intel SST Audio Device (WDM))**, click **Set Default** and click **OK**.

TSP & Digitizer

TSP		Digitizer	
Nike-Tab	William	Nike-Tab	William
Capacitive Touch Type		EMR Stylus Pen	
Multi sensing (up to 10 fingers at the same time)		3 button support (Pen tip, Side button, Tail button)	2 button support (내장:Pen tip, Sidebutton) 3 button support (외장: Pen tip, Side ,Tail button)
High touch sensitivity at the edges		Replaceable pen tip	
Touch launcher, Touch supporter			

You can use the computer using the touch screen only, without using the keyboard and mouse.
The touch screen function is only supported for models which have the function installed at the factory.

- Operate the touch screen using your finger or the digitizer pen. Other tools such as a ballpoint pen are not recognized and using sharp objects may damage or scratch the surface of the LCD.
- If a digitizer pen (optional) is provided, you can use the digitizer pen instead.
- Since touching the touch screen with a conductive material such as a metallic object may cause a malfunction, take care not to touch the screen with this kind of object.
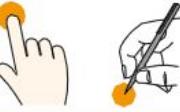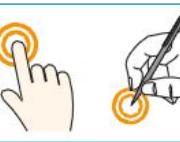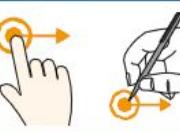
Using the Touch Screen
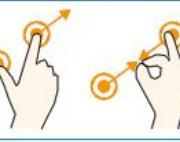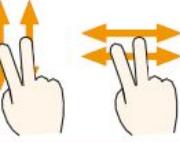
- This function is provided by touch screen models running Windows 8 and will only work for some applications.
- In addition, note that the supported functions are dependant on the application.
- You can use the digitizer pen (optional) as you use your fingers. The descriptions here are for using your fingers.

Learning basic touch screen operations

You can easily learn how to use the touch screen conveniently.

Touch Operation		Function Description
	Dragging from the right edge toward the center	Displays the Charms menu which is hidden at the right of the screen.

Touch Operation	Function Description
Dragging from the left edge toward the center	Displays the last run App.
Dragging from the bottom edge upward or from the top edge downward	Displays the options for the currently running application.
Touching slightly (Clicking)	Slightly press with your finger to select an item. (If you slightly touch a specific menu, option, application icon, etc. on the screen, the corresponding capability is activated.)
Touching twice (Double-clicking)	Slightly press twice with your finger to select an item.
Touching and dragging	Moves the selected target or moves to the next page. You can draw a picture or write some letters with this operation.

Touch Operation	Function Description
Rotating with more than 2 fingers	Rotates the selected target.
Spreading 2 fingers widely or bringing them towards each other	Zooms in or out of the target.
Touching and holding for a while (Right-clicking your mouse)	Provides the same function as right-clicking your mouse button. Displays the additional options which can be set for the selected target or more detailed information.
Touching and dragging 2 fingers up/down, left/right (Scrolling)	Moves up/down, left/right. Provides the same function as scrolling your mouse.

Using the digitizer pen (optional)

If a digitizer pen is supplied with the product, you can operate the computer with the pen instead of your fingers.

You can use the digitizer pen as you would use your fingers.

Taking Out the Digitizer Pen

Take out your digitizer pen toward the right.

After using the digitizer pen, keep it in the digitizer slot.

Replacing the pen tip

If the pen tip is damaged, you can replace the pen tip as follows:

1 Hold the pen tip by inserting it into the hole of the ring and remove the tip by pulling it out.

2 Insert the new pen tip into the digitizer pen.

Take care so that the pen tip does not spring out when taking it out.

Digitizer pen structure and functions

Pen button

Ring
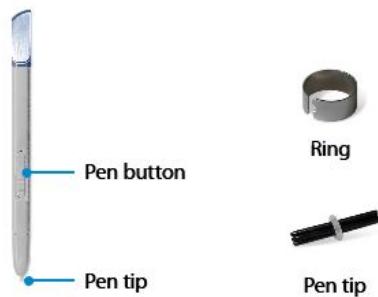
Pen tip

Pen tip

Pen tip (Use this to perform the role of the left mouse button)	This performs the function of your finger tip when you touch the screen.
Pen button (Use this to perform the role of the right mouse button.)	If you press the pen button when the digitizer pen tip is on the screen, circles appear around the pointer on the screen. Touch the screen with the digitizer pen while holding down the pen button. This performs the right-click function.

Screen Calibration

When you use the touch screen for the first time or the pointer on the screen does not precisely match the points you touch, calibrate the touch screen using the **Tablet PC Settings** menu.

The calibration process for the touch screen may differ depending on the operating system and may not be available in some operating systems. The following descriptions assume the Windows 8 operating system.

1 Click **Charms menu** on the Desktop > **Settings** ⚙ > **Control Panel** > **Hardware and Sound** > **Tablet PC Settings** > **Calibrate**.
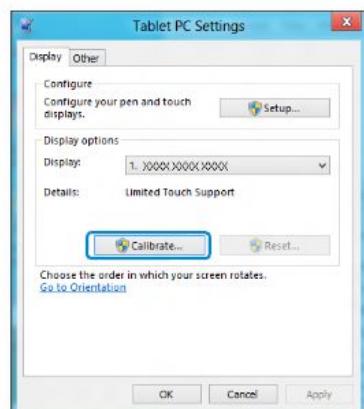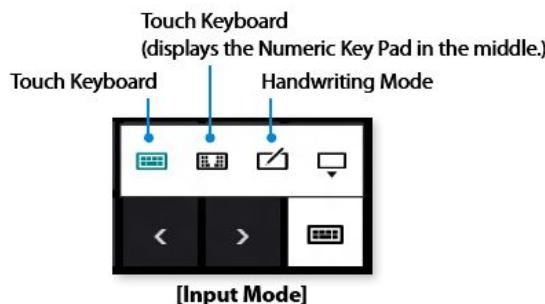
2 Select the screen type to calibrate. If the **Calibration** screen appears, touch the point represented by the "+" mark and then remove your finger.

The "+" mark appears sequentially from the top left to the bottom right of the screen.

3 When the **Do you want to save the calibration data?** window appears, click **Yes**.

The touch screen input points are calibrated.

3 On the Desktop, press the ⌨ at the right of the taskbar to display the **Tablet PC Input Panel**.

Touch Keyboard
(displays the Numeric Key Pad in the middle.)
Touch Keyboard   Handwriting Mode

[Input Mode]

Entering Characters

You can enter characters using the **keyboard** and the **Tablet PC Input Panel**.

Entering characters may differ depending on the operating system and is not supported by some operating systems.

If you are using your computer for a long period of time, it is recommended using the keyboard.

Entering characters is explained using an example with notepad.

Using the Tablet PC Input Panel

The **Tablet PC Input Panel** is an onscreen keyboard provided by **Windows**.

Follow the descriptions and illustrations on how to use the **touch keyboard** and **handwriting mode**.

1 In the **Start screen**, slightly drag the top edge of the screen toward the center.

Press **All Apps** > **Notepad**.

2 Put your hand on the Notepad screen to display the cursor.

Entering characters using the Touch Keyboard

The **Touch keyboard** has the standard keyboard layout which allows you to select keys to enter characters.

1 Press the **Touch Keyboard** icon in the Tablet PC Input Panel.

2 Press the keys to enter your characters.
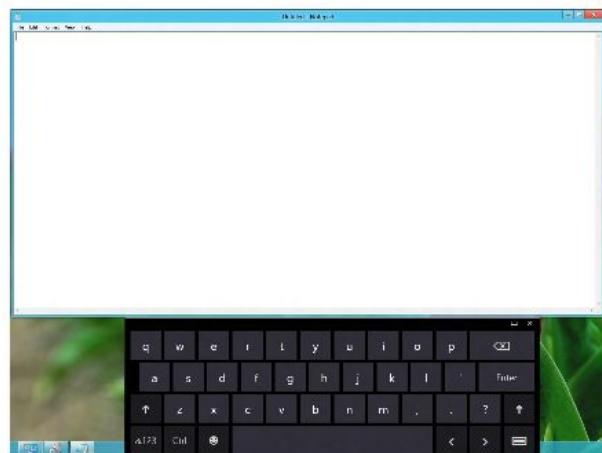
Entering characters in Handwriting Mode

You can enter characters by writing them in the Handwriting Mode Input Panel on the touch screen.

> 📝 Handwriting Mode may not be available in some languages.

1 Press the **Handwriting Mode** icon ▱ in Tablet PC Input Panel.

2 Write characters in the input area of the **Handwriting Mode Input Panel** on the touch screen.
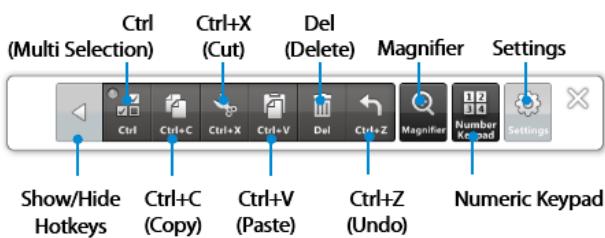

3 Press the **Insert** button to enter characters.

This program helps you to use functions that cannot be easily used with touch operations more easily.

> 📝 The Touch Supporter is not supported in the Start screen.

Launching the Touch Supporter

If you touch the screen with three fingers simultaneously the touch support program is launched.

To exit the **Touch Supporter**, click ✕ or touch the screen with three fingers again.

Touch screen use precautions

- Use the touch screen with clean and dry hands. In a humid environment, remove the moisture from your hands and the touch screen surface before use.

- Avoid directly spraying liquid cleansing solution onto the touch screen. The liquid solution may enter the touch screen through the bottom edge.

  When using a liquid cleansing solution, dampen a cloth in the solution and clean the screen with the cloth (a cleansing solution or cloth containing abrasives may damage the touch screen.)

- Do not apply a severe impact to the touch screen or press the screen with a sharp object such as a ball-point pen.

  This may damage the touch screen.

- If your finger only touches the touch screen slightly, your touch may not be recognized.

- If you wish to use a pen, please use the provided digitizer pen (optional). Otherwise, the computer may not work properly.

- Take care that you do not drop the digitizer pen as this may damage the pen tip.

- When pressing the touch screen, press over an item precisely taking care not to press other items.

- If the touch screen is contaminated by a foreign substance such as a bug or water, the touch screen will not work properly.

No.	Function		Description
1	Hot key	Ctrl (Multi Selection)	This has the same function as the Ctrl key on the keyboard. If you touch the **Ctrl(Multi Selection)** button, the indicator is turned on. While the **Ctrl(Multi Selection)** key is activated ▱ , and you touch various files one by one with your finger, all the pressed files are selected.
		Ctrl+C (Copy)	Copies the selected item.
		Ctrl+X (Cut)	Cuts the selected item.
		Ctrl+V (Paste)	Pastes the copied or cut item.
		Del (Delete)	Deletes the selected item.
		Ctrl+Z (Undo)	Cancels the last operation.
2	Magnifier		Press the **Magnifier** button to launch the Magnifier program. Using this program, you can magnify a selected section.
3	Numeric Keypad		If you touch the **Numeric Keypad** button, the number and direction keypad is activated.

No.	Function	Description
4	Settings	You can add or move frequently used hot keys by pressing the **Settings** button. You can register up to 10 hot keys and decide whether to display either the **hot key** or the **function name** to represent the hot key information.

Using the Numeric Keypad

1 Touch the **Numeric Keypad** . The Numeric Keypad appears on the screen.

2 If you touch the buttons on the **Numeric Keypad**, the corresponding number or symbol is entered on the screen.

Switches the mode between the numeric and the direction key input modes

To select direction key input mode, touch .

To select numeric key input mode, touch .

NFC (Option)

About NFC (Near Field Communication)

- This is a set of standards to establish radio communications within a short distance (usually no more than 4 centimeters). You can share the contents safely and conveniently without any cumbersome setup process.

- P2P games, reading/writing tags, NFC device communications and so on can be utilized depending on the NFC device.

- You can use the NFC function on devices that have the NFC mark.

> For more information on how to use the device, refer to the User Guide of the device.

4 If the following message appears on the **B computer**, tap on the screen.

> **Receive content?**
> Tap to receive content from another device.

5 Now, the website contents in computer A are delivered to computer B.

  You can see the computer A's website on the computer B's Internet Explorer.

Connecting a device

This section describes how to connect an NFC-supported Bluetooth speaker.

1 Turn the computer on. Turn the Bluetooth speaker on.

2 Put the NFC mark of the speaker into contact with the **NFC antenna** at the back of the computer.

Simultaneously sharing a website between two computers

This section describes how to connect two NFC computers.

You can connect a website displayed on computer A with computer B at the same time.

1 Open a website on **computer A** using Internet Explorer.

2 On **computer A**, select **Charm menu > Device** > **Sent by Tap**.

3 Put the **NFC antenna** of the NFC **computer B** into contact with the **NFC antenna** of **computer A.**

3 The device connection confirmation message appears at the top right of the screen. Tap on the message.

  Connect the device according to the instructions on the screen.

> **Add a device?**
> Tap to set up your XXXXXXXXXXX

4 The device is connected. You can now use the speaker.

  Select **Charm menu > Settings > Change PC Settings > Device** to view the connected device.

> Devices
>
> + Add a device
>
> XXXXXXXXXXXX
>
> Microsoft XPS Document Writer
>
> USB Keyboard

Restrictions

- You can make only one-to-one connection between NFC devices at a time.

Multimedia App

You can enjoy photo, video and music files with the S Camera, S Gallery and S Player apps.

S Camera	You can take photos and record videos with the S Camera app, and view them directly in this app.
S Gallery	Only photos or videos recorded with the S Camera app can be viewed with the S Camera app.
S Player	You can view the photo, video and music files saved on the computer.

> Depending on the version of the program, some functions may not be provided or different functions may be provided.

> **Third-party software related services**
> - For descriptions about and service requests for third-party software, please contact the relevant manufacturer.
> - Some troubleshooting actions in response to service requests may not work depending on the software manufacturer.

Using the S Camera app

1 Tap **Charm menu > Start** ⊞ **> S Camera.**

Camera mode (Photo ⬛, Video 📹)

Zoom in/out

Photo settings

Take a picture/
Record a video

Front/rear
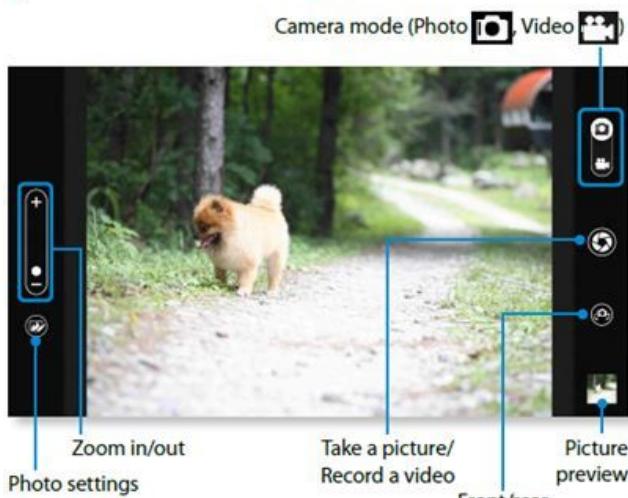
Picture
preview

2 For a model that provides 2 cameras (one on the front, the other on the back), Press the **Front / Rear camera selection** 🔄 button to determine the camera to be used.

You can launch an app in the Start screen.

3 To take a picture, slide the camera mode bar into the Photo ⬛ position.

To make a video recording, slide the camera mode bar to the Video 📹 position.

4 Tap on **Take a picture/Record a video** ⭕ to take a picture or record a video.

5 You can view the picture or video using the **Picture preview** 🖼 or **S Gallery** app.

> The S Camera app is not available in Desktop mode.

> **Precautions while taking a picture or video**
> - Do not take a picture or video of others without their consent.
> - Do not take a picture or video in locations where this is not allowed.
> - Do not take picture or videos in locations where you may infringe on others' privacy or confidential information may be exposed.
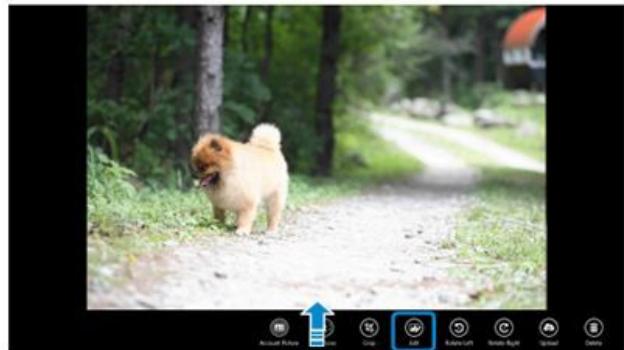
Using the S Gallery app

1 Tap **Charm menu** > **Start** ⊞ > **S Gallery**.

2 You can view the pictures and videos taken by the S Camera. In addition, you can apply special effects to the pictures using the photo editing function.

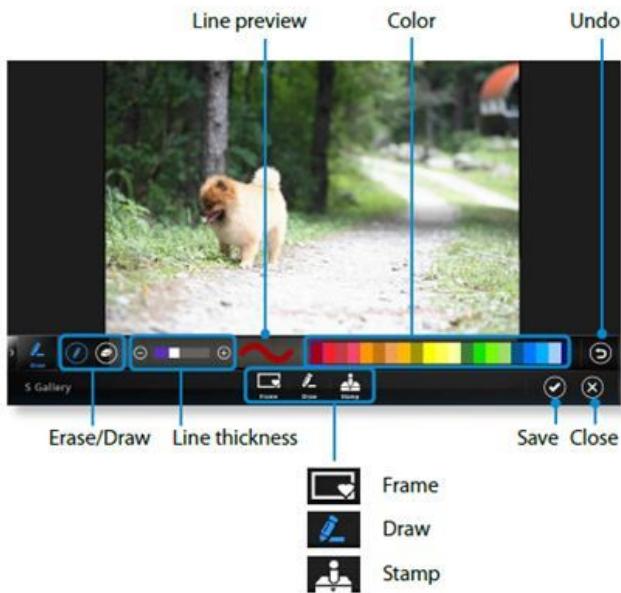> You can take a picture in the S Gallery app by tapping the Camera icon.

2 Select an effect to be applied to the photo.

E.g. If you select Draw

Line preview   Color   Undo

Erase/Draw   Line thickness   Save Close

Frame

Draw

Stamp

Editing a photo

1 Select **Picture preview**.

Drag it upward slightly from the bottom center.

If the options menu appears, select **Edit** ⊚ .

Using the S Player app

1 Tap **Charm menu** > **Start** ⊞ > **S Player**.

My Music

My Photos   My Videos

Music playlist   Slideshow   My photo list

2 Select a menu to enjoy photo, video and music files.

> Some files may not be played depending on their format.

AllShare Play App

AllShare Play is a content sharing service that enables users to share and view photos, and play videos and music files saved on digital devices via the Internet. You can use the web storage service and share data by registering the network-connected devices. If your home appliance supports DLNA (Digital Living Network Alliance), you can also connect it through the home network system.

- Since the descriptions in this manual are based on Windows 8, some of the descriptions may differ depending on the operating system or the device.
- Depending on the country or program version, some functions may not be provided or different functions may be provided.
- The content and images in this manual are subject to change for the purpose of performance enhancement.
- DLNA (Digital Living Network Alliance) is one of the home networking technologies based on an international standard that enables sharing of digital media between consumer devices such as computers, printers, digital cameras, cell phones, TVs, and other multimedia devices. You can easily share data between the DLNA-compliant digital devices in your house by connecting them.
- For information on whether your device supports DLNA, please refer to the user manual of the corresponding device.

You can learn about data sharing as well as view various tips through the lecture videos and FAQs provided on the AllShare Play website (www.allshareplay.com).

AllShare Play is especially useful if you want to

❶ View and play the content saved on your in-house PC with another PC or mobile device outside.

❷ Resume editing presentation documents you created at the office.

❸ Play photos or videos saved on a PC on a TV's larger screen.

❹ Copy files saved on a mobile device or digital camera to your PC

AllShare Play at a Glance

❶	Registered storage	This is an online storage space where you can store and view files. You need to sign up to an online storage service in partnership and then enable it.
❷	Registered device	This is a PC, laptop, smart phone or tablet that contains files to be shared. You can register a device to AllShare Play by running the AllShare Play app and signing in the service once. If the device is turned on without entering the power-saving mode, you can access the files on the device from a remote site.
❸	Nearby devices	This is a device found on the home network connected to the same AP (access point). You can search for a DLNA-compliant device such as a smart phone or PC and retrieve and play the files saved on the device.
❹	Change player	You can search for playing devices, such as a TV, using the **Change player** link.
❺	FAQ	Frequently asked questions and answers are provided.
❻	Settings	Provides additional settings for registering devices and services.

> You can only search for a device when the device is connected to the AP (access point) and is turned on with the DLNA service running.

To use the AllShare Play app properly, you need to configure it as follows:

1. **Sign up on the AllShare Play website.**
2. **Configure PC.**
3. **Use AllShare Play (Play / Transfer / Upload files)**

Sign up on the AllShare Play website

Since AllShare Play is an Internet service, a samsung.com account is required to use the AllShare Play service.

1 Double-click **AllShare Play app** on the Windows Start screen to connect to www.allshareplay.com, or you can access it directly from the web browser by entering the AllShare Play address: www.allshareplay.com.
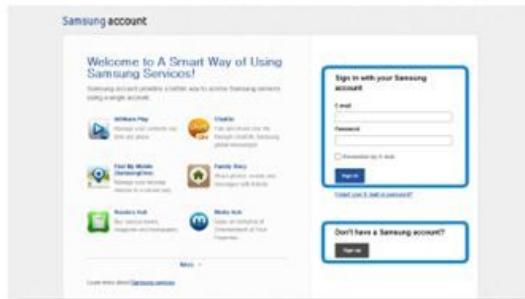

2 Select a language at the bottom right of the screen.

3 Click on **Sign in** at the top right and sign-in to the service with your samsung.com account.

If you don't have a samsung.com account, click the **Sign up** button to create an account.

4 If you are connecting to the website for the first time, the software installation screen appears.

To use the AllShare Play service, install the PC software.

5 Register the current PC with the AllShare Play website according to the instructions on the screen.

- Since up to 6 PCs can be registered, if 6 PCs have already been registered, you have to deregister one of the registered PCs in order to register a new one.
- Up to 5 users can be registered on one PC.

Configure PC

Setting the device status

To remotely access the files saved on a device registered with AllShare Play,

1 **Disable power-saving mode.**

The PC must be turned on and should not enter the power-saving mode to use the service: click **Settings** at the top right of the screen and select the **Disable the standby mode of the PC** option.

6 When the device registration process is completed, install the unified codec according to the instructions on the site.

7 To use a storage service, click the [+] button and **register the storage** to use.

You can register storage by signing up for a storage service, such as SugarSync, that is aligned with AllShare Play.

8 If you register a smart phone or tablet in the AllShare Play service, run AllShare Play on the device and sign in with your Samsung account. Whenever the device is turned on, you can access the files in the device.

2 **Need to Keep AllShare Play in signed-in status.**

Once you sign into AllShare Play on a PC, you can remotely access the PC for up to 15 days even after signing off.

If the **AllShare Play icon** appears in the system tray, it indicates that it is in the signed-in status. Since the AllShare Play service automatically logs out after 15 days, please sign in again. When the AllShare Play service is signed out, the icon will appear gray in color.

Sharing files

Click **Settings** at the top right of the screen to configure the folders to be shared with registered devices. Only the photos, videos, and music files in the folders specified as shared folders are listed in the file list of AllShare Play.

You can add up to 10 shared folders.

Use AllShare Play (Play / Transfer / Upload Files)

Playing videos or viewing photos on a TV

With AllShare Play, you can play a file saved on a registered device, nearby device, or Storage on TV. You can search for TVs that satisfy the following 3 conditions:

- **The TV must be connected to the same AP (access point).**
- **The TV must be turned on.**
- **The DLNA service must be running on the TV.**

1 Select the checkbox of the video or photo to be displayed.

2 Click **Change player** at the top of the screen to search for a device.

3 If the PC and TV are connected, a message asking you to allow access appears from the TV. Allow access.

4 The video or photo slideshow is played on the device.

If the files that you want to play are stored in **Registered Devices** or **Registered Storage**, playing videos or photo slideshows can be slow when the network connection is unstable.

Playing a file

In AllShare Play, you can play a file saved on a registered device, nearby device, or Storage.

1 Select the checkbox of the video or photo that you want to play.

2 Click **Play** at the top of the screen.

A player such as Windows Media Player is launched and the file is played.

Set the player settings in the options of Windows Media Player to keep the player **on top of other windows to always view** Windows Media Player on top of other windows.

Transferring a file

1 If you select a registered device or nearby device, the files saved on the device are displayed on the screen.

2 Select a file (or files), and select a destination from the **Transfer** menu.

You can then copy or move the file(s).

Uploading a file to a SNS

1 Select the checkbox of the file that you want to upload.

2 Click **Share** at the top of the screen and select a SNS (social networking site) website (Facebook, Twitter, Flickr, Picasa, etc.).

3 Sign in to the SNS.

4 Follow the onscreen instructions to upload the file.

Depending on the country, supported SNS services can vary.

TPM (Option)

A TPM (Trusted Platform Module) security device is a security solution that protects your personal information by saving the user authentication data on the TPM chip installed on the computer.

To use the TPM security device, you have to initialize the TPM chip in the BIOS Setup, initialize the TPM program, and then register the user.

> - This function is only supported for models with TPM (security chip).
> - For more information, refer to the online help for the program.
> - The program version described in this manual is subject to change and the screenshots and terms used in this manual may differ from the actual product.

Setting Up the TPM

❗ To use the TPM function, you have to complete the following steps.

1 Initializing the TPM chip
Initializes the authentication information saved on the TPM chip.

2 Installing the TPM program
Installs the TPM program.

3 Registering the TPM program
Registers the TPM program.

If you complete the steps above, you can use the TPM function.

Registering the TPM program

1 Right-click over the **Start screen**.

Click Display **All Apps** ▦ > **Infineon Security Platform Solution** > **Security Platform Management** > **User Settings**. (Run as administrator)

Alternatively, double-click the 🔒 icon on the Taskbar and run initialization with administrator authority.

2 The security authentication settings begin with the **Initialization Wizard**. When the Initialization Wizard appears, click **Next**.

> If the **status not initialized** message appears, click **Yes**.
> If you backup the emergency recovery file to an external storage device according to the instructions of the Initialization Wizard, you can use the TPM security device more safely.

3 Select a **Security Platform Feature** and set a **basic user password**.

4 Complete the registration according to the instructions.

5 The user registration for the TPM program has been completed. You can encrypt files and folders by using the encryption file system, and use files and folders to be encrypted by creating or copying them to the virtual drive.

The virtual drive is created in the following location.
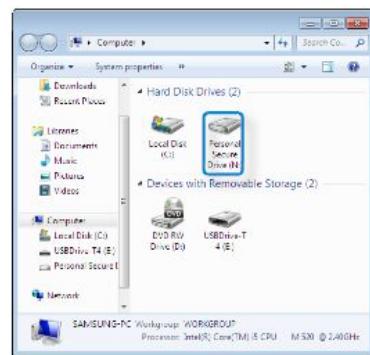
Using the TPM program

📝 For more information about using the TPM program, refer to the online help for the program.

Encrypting a file (folder)

This function enables encrypting files and folders. You can safely protect documents through the Encrypt File System (EFS).

📝 The Encrypt File System(EFS) function is supported by the following operating systems.
- Windows XP Professional
- Windows Vista Business / Enterprise / Ultimate
- Windows 7 Professional / Enterprise / Ultimate
- Windows 8 Pro / Enterprise

1 Right-click over the folder (or file) to be encrypted, and select **Encrypt** from the pop-up menu.
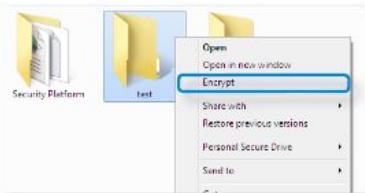
3 In the **user authentication** window, enter the **Basic user password** you entered when registering the user and click **OK**.

4 You will be able to confirm that the color of the folder (file) name in the encrypted folder has been changed to green.

2 If the **Confirm Attribute Changes window** appears, select the range to apply the encryption to and click **OK**. (This dialog box only appears when the folder is encrypted.)

📝 If the current operating system is Windows 8/7/Vista, the user account control window appears. In this case, click **Continue**.

Opening an encrypted folder (file)

1 Double-click an encrypted folder (file).

2 If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3 The folder (file) opens.

Decrypting an encrypted folder (file)

1 Right-click over an encrypted folder (file) and select **Decrypt** from the pop-up window.

2 If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3 The folder (file) is decrypted.

Using the virtual drive (Personal Secure Drive: PSD)

The virtual drive (PSD) is a virtual space to save and manage confidential data. In the created virtual drive (PSD), you can create files and folders as with a normal drive (e.g. drive C:) and you can use confidential data saved on another drive by copying the data to the virtual drive (PSD).

When the virtual drive (PSD) is not loaded

To use the virtual drive (PSD), the virtual drive (PSD) should be loaded first. If it is not loaded, you can load it according to the procedures below.

1 Right-click over the **Security Platform** icon in the system tray of the Taskbar and select **Personal Secure Drive** > **Load** from the pop-up menu.

2 In the load window, enter the basic user password and click **OK**.

3 If you click on Windows Explorer in the Taskbar on the Desktop screen, you can confirm that the Personal Secure Drive has been created.

> **!** Note that when you have copied confidential data to the PSD, the original data files are not encrypted.

When the virtual drive (PSD) does not appear

You can only use the virtual drive (PSD) when you have selected the Personal Secure Drive (PSD) option during the program registration.

If you have not selected the option during the registration, complete the following steps.

1 Right-click over the **Start screen**.

Click **Display All Apps** ⊞ > **Infineon Security Platform Solution** > **Security Platform Management** > **User Settings** > **Security Platform Features**.

2 When the **Initialization Wizard** appears, select **Personal Secure Drive (PSD)** and enter the user password.

3 Click **Next** several times according to the instructions of the **Initialization Wizard** to finish the wizard.

When you have to register again (to erase the authentication information on the TPM chip)

To register a user again, you need to delete the existing authentication information saved on the TPM chip and then clear the TPM chip.

Register the user in the following order.

1 Delete the virtual drive.

2 Delete the existing authentication information saved on the TPM chip.

Deleting the virtual drive

If a virtual drive has been created, you have to delete the virtual drive before deleting the existing authentication information saved on the TPM chip.

1 Right-click over ▶ > 🔲 and click **Personal Secure Drive > Create/Manage**.

2 Click **Next**.

3 Enter the password that you entered when registering the TPM program and click **Next**.

4 Select Delete selected PSD and click **Next**.

5 Select "**I want to permanently delete my Personal Secure Drive without saving an unencrypted copy of its contents.**" and click **Next**.

6 Click **Next** and then **Finish**.

7 Now the virtual drive has been deleted.

Deleting the existing authentication information saved on the TPM chip.

1 On the desktop, select the **Charms menu > Settings > Control Panel > Programs > Uninstall a program > Infineon TPM Professional Package**. Then click **Uninstall**.

2 If the message window appears, click **Yes** to remove the program.

3 If the **Infineon Security Platform** message appears, click **No**.

4 Click the **Windows Explorer** 📁 icon in the taskbar on the Desktop.

5 In **View > Options > Folder Options > View > Hidden files and folders** item, select the Show hidden files, folders, and drives option and click **OK**.

6 Click the **Start > Computer > Drive C: > ProgramData** folder and delete the **Infineon** folder.

7 Now the TPM Program has been deleted.

To use the TPM function, please repeat the procedures of the **TPM chip initialization** process.

Wireless Display
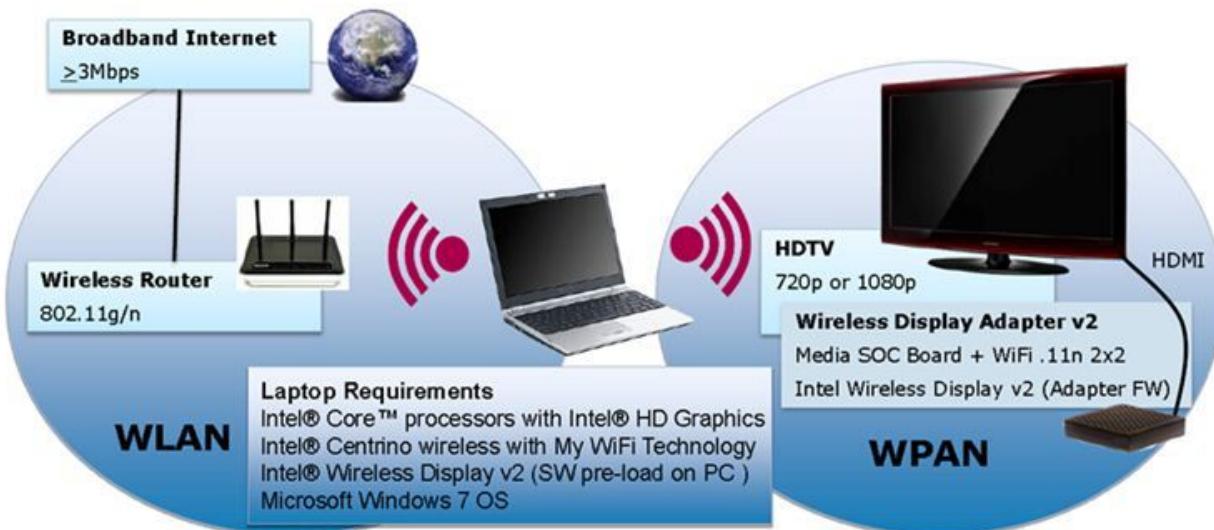
※ Please Refer to the Training manual chapter1.

Wireless Display (Intel® WiDi)

Requirements

System: Intel CPU, Intel GFX, Intel WLAN
Software: My WiFi Technology, WiDi S/W, Win7
3rd vendor product: WiDi Receiver (Netgear's Push2TV PVT1000) on TV side

Requirements   Wireless Display

Versions Supported SPEC

Feature	2010 Features	2011 Enhancements
Standard HD media codec	• 30fps motion video at 720p encode at the PC • Standard MPEG2 codec	• 30fps full motion video at 1080p encode at the PC • Standard H.264 using HW encode
Standard Display Output Protection		• Output protection via HDCP2* • Blu-ray and DVD
Display Adapter uses Standards based WiFi	• Adapter using .11bgn 1x1 radio	• Adapter using .11agn 2x2 radio
Intel Frame Capture Intel A/V Time Sync	• Graphics driver frame capture for smooth video • Best in class A/V lip-sync with 2ch stereo audio	• Surround Sound
Intel Easy Set-Up & Connect	• No remote control, no buttons on the adapter • Setup & use only requires WPAN network connection • Uses WFA WiFi Protected Setup	• Same
Intel My WiFi Optimized for Full HD 1080p Display	• It just works! • Concurrent PAN–display & LAN–network access	• 5GHz WPAN improves robustness
Display Experience	• Acceptable latency for targeted key Living Room usages • All Display Modes supported (Clone, Extended & Remote Only) • Fast Cursor	• Lower latency for keyboard, mouse, and video < 300ms

Progress

Q4 '10 WiDi v2.0
Full HD, 1080p, 5GHz Support, Huron River

※ Please Refer to the Training manual chapter1.

IMAGE VIEW ▶ Comparison of two

Watch the video through the TV.

Video / music / photos (Contents Sharing)	2nd Monitor (Display Sharing)
· USB	· Intel Wireless Display
· DLNA	· Altona HDTV Wireless Adapter (UWB)

Wireless Display Similar technology

Wisair (www.wisair.com), **Atlona** (www.atlona.com) **HDTV Solution**
 -Wireless 720p transmission via Wireless USB.

IOGEAR (www.aiogear.com)
 - Wireless HD Video transmission via Wireless USB (1600 X 1200 or 1680 X 1050)
 - Used within 10m.
G-Max (www.gmax.com)
 -Wireless Full HD (1080p) transmission via Wireless USB.

AMIMON (www.amimon.com)
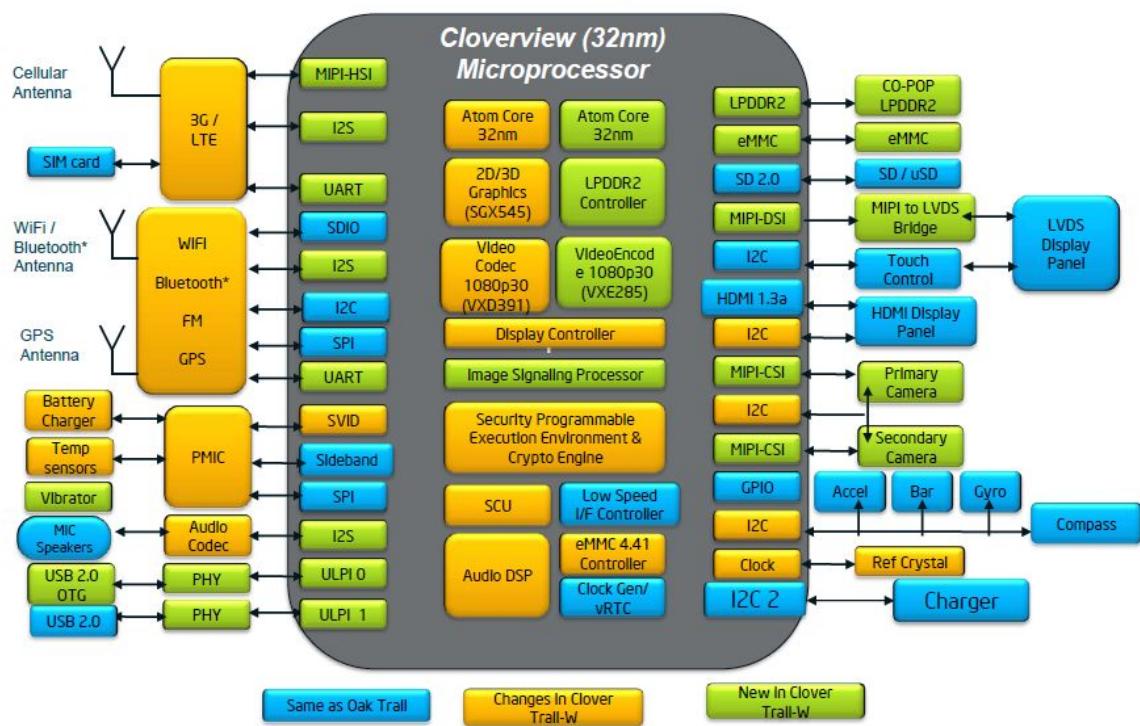
2.1.6.   Hardware

Hardware – Intel Clover Trail

## Clover Trail-W Platform Lineage
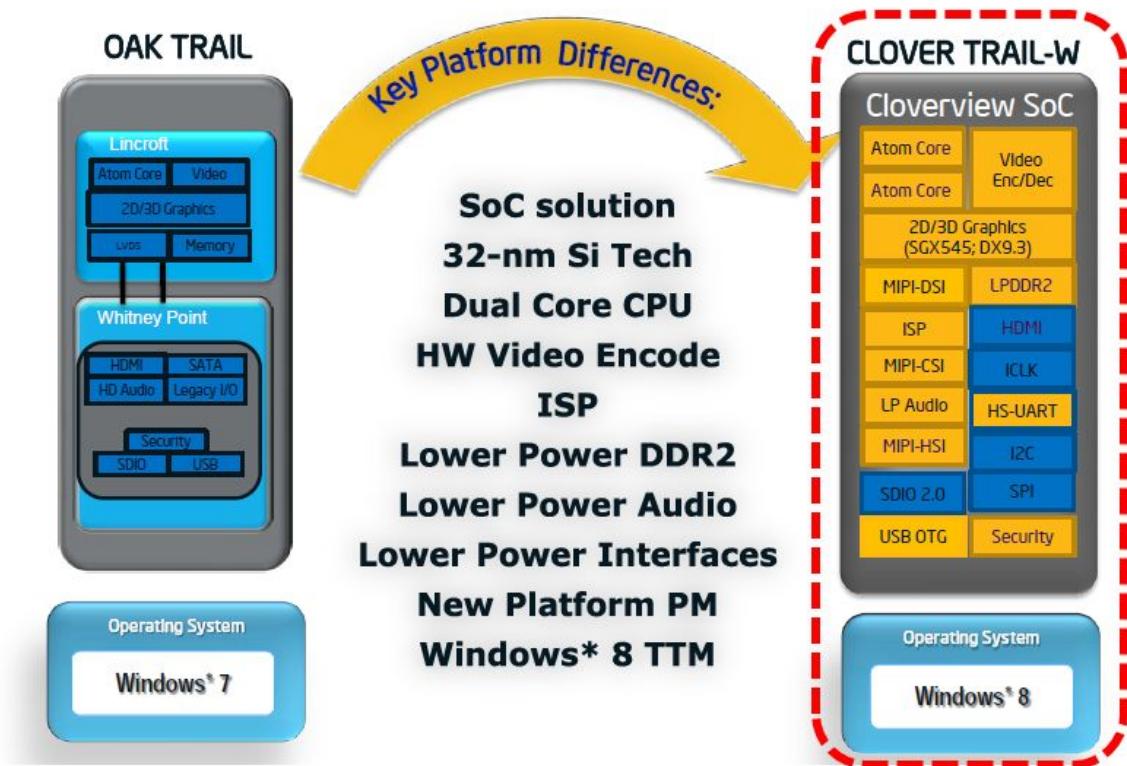
Clover Trail-W Block Diagram

Graphics & Display Features

Display Pipe configurations
1) Pipe A: 4 lanes, 1Gbps per lane
2) Pipe B: HDMI 1.3a, Up to 74.25MHz

MIPI PHY

- Clk A
- Data 0
- Data1
- Data 2
- Data 3

Pipe A DSI controller

Pipe B HDMI

MIPI-DSI → MIPI to LVDS Bridge ↔ LVDS Display Panel
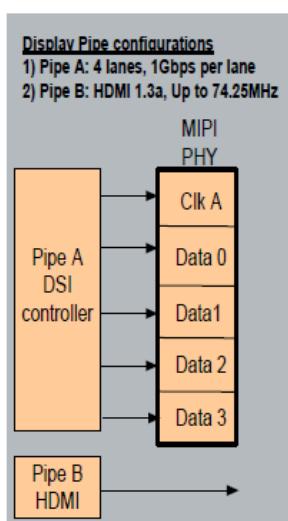
Feature	Targets
Gfx API	DX*9.3, OGL 3.0
Display Pipes	2
Display ports	X4 MIPI DSI, HDMI 1.3a LVDS (via MIPI DSI bridge)
Max resolution	MIPI DSI x 4: 1920x1080 x18bpp color, @60 Hz HDMI: 1080p @30 Hz
Dual Display	Clone, Extended DT
Display power savings	Intel® Display Power Saving Technology (Intel® DPST); 3[1], DSR and CABC (with bridge chip)
Intel WiDi	Up to 1080p
Rotation	90, 180, 270 HW support
HDCP	1.3

1 Intel DPST 3 and Display Self Refresh are mutually exclusive

Clover Trail LPDDR2 Memory

LPDDR2 PKG

LPDDR2 Dice

Interposer

SOC Die

SOC Package
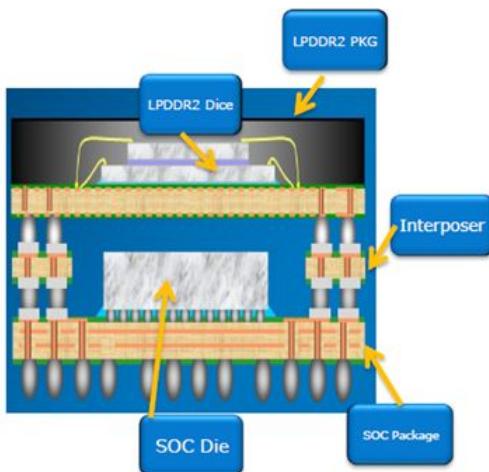
LPDDR2-800, 32bit, 2 Channels Co-POP memory, only 220b package supported

Higher memory bandwidth than previous generation

Lower memory power

- Significant improvement in standby battery life
- Good Improvement in battery life for all other workloads/Applications.

Thermal

- Thermal analysis shows LPDDR2 enables thin and light FF

Board Area

- LPDDR2 Co-POP configuration results in smaller PCB area

LPDDR2 provides Significant Improvements over Previous Generation

Clover Trail

Feature	Oak Trail	Clover Trail - W
North Complex	Intel® Atom™ Processor, Z670 (Formerly Lincroft)	
South Complex	Intel® SM35 Express Chipset (Formerly Whitney Point PCH)	Cloverview SoC
CPU Core		
CPU Core Process	45-nm	32nm
# cores/# threads	Single Core / 2 threads	Dual Core / 4 threads
HFM/LFM	1.5 GHz/600 MHz	1.5 GHZ/600 MHz
Burst mode	No	1.8 GHZ
power states	C0- C6	C0- C6 (no independent C6)
Memory		
DRAM Type	DDR2-800	LPDDR2-800
# of channels	1 channel, 2 ranks	2 channel, 4 ranks
data width	32bit	32bit
max clock freq	DDR2-800 (400 MHz)	DDR2-800 (400 MHz)
external option	Memory Down only	Co-POP only
Max mem Extended	2GB	2GB
Device width	DDR2 (x8, x16)	x32
Gfx & Display		
Graphics Core	SGX535 400 MHz, DX*9	SGX545 400MHz,DX*9.3
Video Decoder	VXD375	VXD391
Video Encoder	SW	VXE285 (up to1080p30)
Display	LVDS (1366x768), HDMI rev1.3a	DSI-LVDS Bridge (1920x1080), HDMI rev1.3a

| Feature	Oak Trail	Clover Trail -W
Key I/Os and others		
Imaging	USB, SW processing	HW Image Processor, 2x MIPI-CSI2 4x lanes front camera; 1x lane rear camera
Audio	HD Audio, SW processing, Discrete Codec	4 x I2S, HW Low power Audio, Discrete Codec
USB	3 x USB 2.0, 1 x USB 2.0 OTG (Android)	1 x USB 2.0/1.1; 1 x USB 2.0 OTG (with external ULPI PHY)
Communication	SDIO WiFi, USB 3G, USB Bluetooth*	SDIO WiFi, MIPI-HSI 3G, UART Bluetooth*, GPS
Storage	1 x SATA Gen2, 1 x SD2.0	1 x SD2.0, 2 x eMMC4.41 (128GB)
SDIO	1 x SDIO 2.0	2 x SDIO 2.0
I2C	3 x I2C	6 x I2C for more sensors support
SPI	2 x SPI	3 x SPI, 1 x SSP
UART		3 x HS UART
Clocking	Integrated Clocking	Integrated Clocking
Power Delivery	PMIC + Discrete VRs	PMIC + Discrete VRs
Platform Power management	ACPI 3.0	S0ix support, no S1/S3 support
CPU/PCH or SoC power (Skype video conference)	~2.0 W	~ 900mW[1]
Video Streaming Battery Life	~6+hr[1]	~9+hr*
Standby Battery Life	~8 days[1]	~30 days[1]
CPU Perf (MT)	Baseline (1.0x)	1.1x (ST), 2.1x (MT) [2]
Platform Features		WiDi[3] PC Sync, Intel® Insider, Native AOAC, Advanced Imaging, NFC

WLAN (Bluetooth)

BT 4.0

- PC Side: BLE Device in connection with the existing BT 3.0 features were added.

- Device Side: This model is applied not only BT 3.0 but also BLE(Bluetooth Low Energy) only.

- Device characteristics of BLE only
    - The controller is implemented as a simple structure. Chip/Device(Affordable price)
    - Low power consumption. The device's battery life increased dramatically.
      (For example) A number of Coin Cell can use the BT Keyboard with BLE Technology more than a year months)
    - The device with BLE only is not compatible with Classic Bluetooth(BT 3.0)

- Single Mode
    - BLE supports only
    - Simple structure, Affordable price, It is easy to apply
    - Peripheral device is used.
      Ex) BT KBD, MOUSE, Heart Rate Monitor

- Dual Mode
    - Classic BT and simultaneous support BLE.
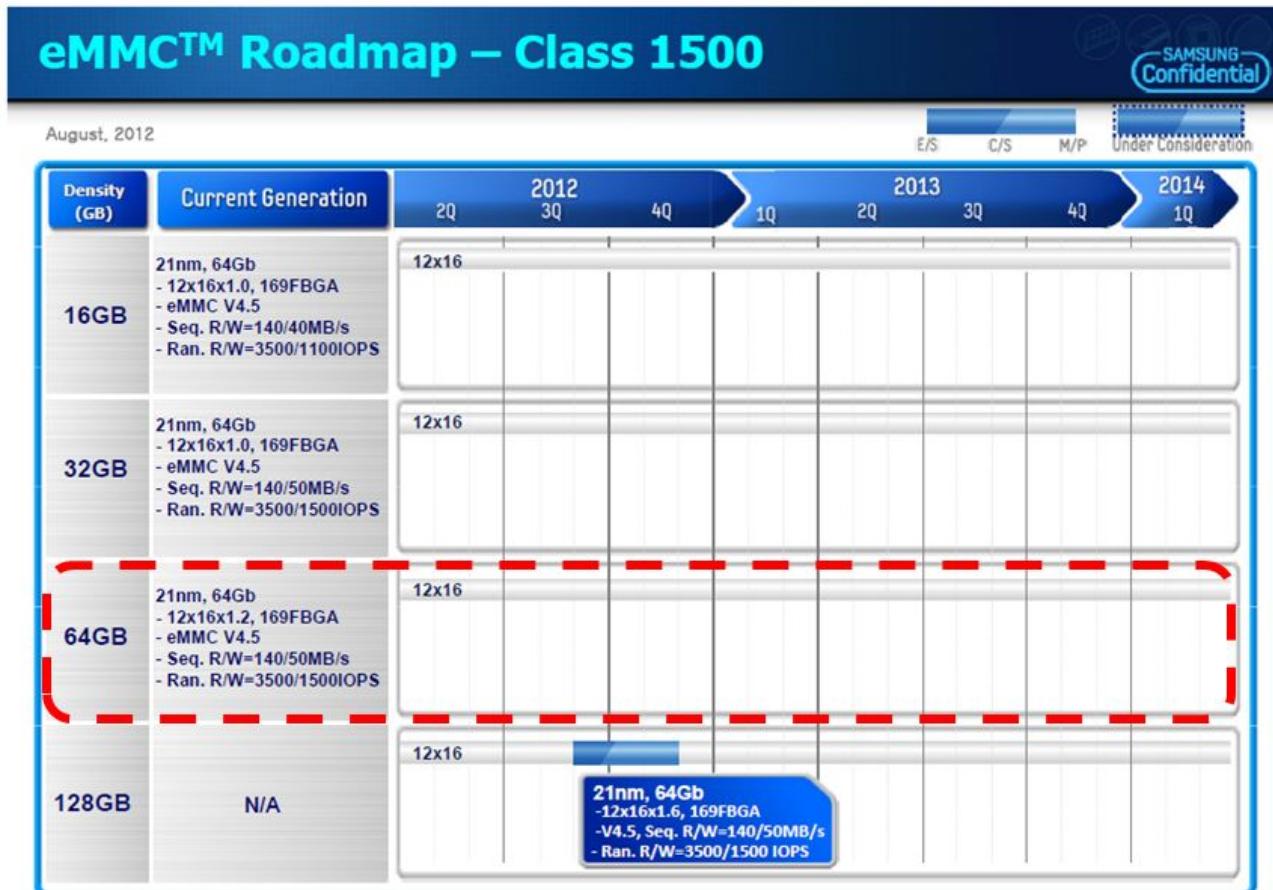   - HOST device uses
      Ex) PC, Phone

Near Field Communication (NFC)

NFC for Proximity
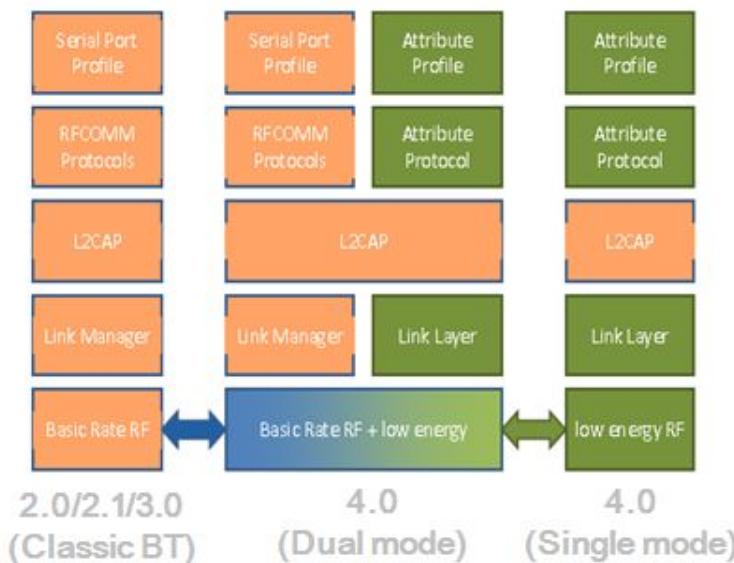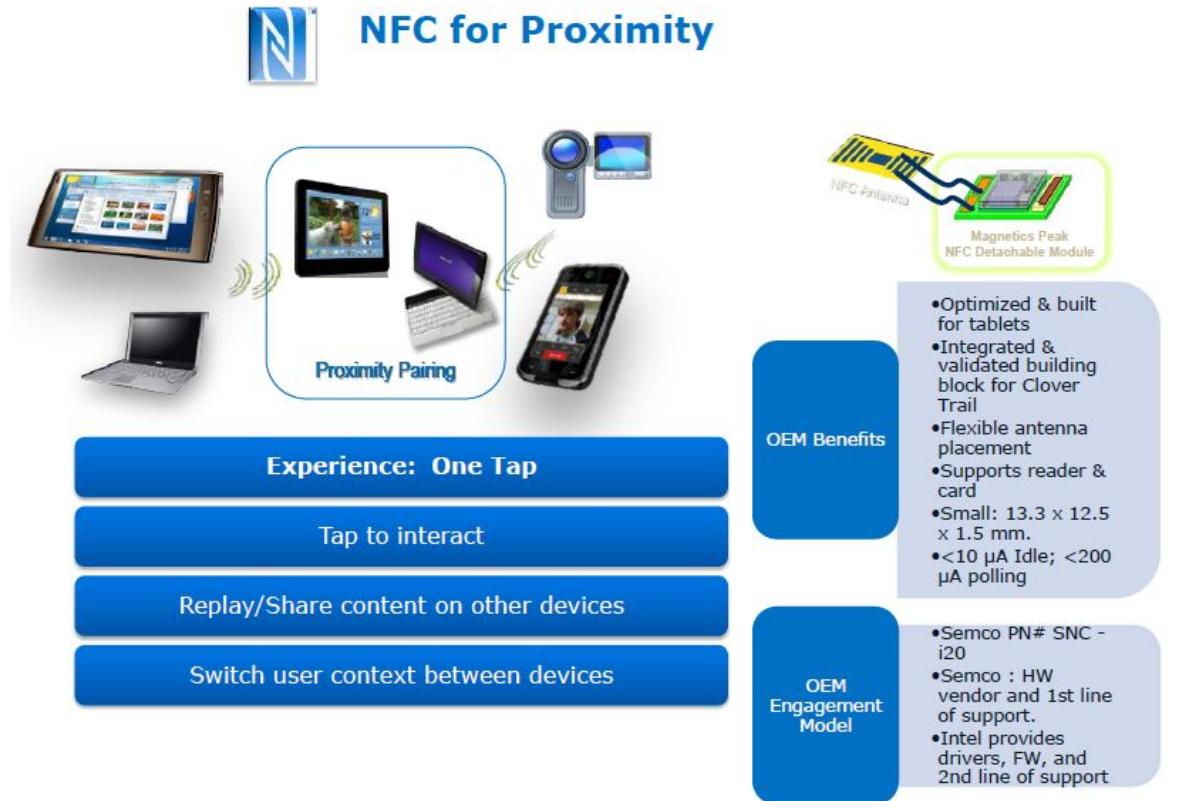
Intel's NFC Solution delivers a consistent experience to simplify and connect across devices.

embedded Multimedia Card

2.1.7. SW List

Category	SW Item
Utility	Settings
	Quick Starter (SW launcher)
	Samsung Theme - Wall papar - M-POP Screen saver
	AnyWeb
	Adobe Reader
	Universal Printer/Sacnner Driver
	S Note
	S Player
	S Gallery
	S Camera
	Photo Editor
	Video Maker
	Sogou (with ENG/CHN KBD exchanger)
	Yandex
Customer support	Help Desk
	Support Center
	SW Update
	Recovery Recovery -Light version
Convergence	Easy File Share 1.3
	AllShare Play (D/T)
Manual & PR material	Electronic Manual (including SW Manual, based on WEB)
	EPOP
	MultiMedia POP
	Survey Icon
Microsoft Apps	Office 2010 Transition OPK
	MSN Homepage - new
	Fresh Paint
	Movie maker / Photo Gallery
	Calculator
Outsourcing App -Worldwide	Fruit Ninja - HalfBrick
	Plant VS Zombie - PopCap Games
	Evernote
	Norton Studio
	Norton Security (EXP: 60 days Trial, KOR : 1Year Trial)
	Norton Online Backup (30-day Trial)
	Intel Appup
	Jamie Oliver's recipe

Category	SW Item
For B2B Model	Absolute Data Protection (D/T)
	Infineon TPM Professional Package
For touch model	Touch Supporter

S/W (Previous SW/New SW)

[For more information, product descriptions and installation training manuals refer to Chap.2]

S/W (Consultation stage of development)

Please refer that [Consulting Script] -> [Consultation]

2.1.8. System Setup (Bios Setup)

The BIOS Setup enables you to configure your computer hardware according to your needs.

- Use the BIOS setup to change the booting priority, or add a new device.
- Since incorrect settings may cause your system to malfunction or crash, take care when configuring the BIOS.
- The functions of the BIOS setup are subject to change for product function enhancement purposes.
- The BIOS Setup menus and items may differ depending on your computer model.

※ Using the mouse. (Limitations)
→ Cursor speed : Slow
Accept using the existing shortcut keys

Entering the BIOS Setup

1 Shut the computer down.

2 Press the computer's **Power button**.
If the Samsung logo screen appears, press the **Home button** ⊞.
※ Home Button : Continuous press.
※ Keyboard Dock : Continuous press F2 Key.

3 After a moment, the BIOS setup screen appears.
The items in the BIOS setup may differ depending on the product.

The BIOS Setup Screen

The BIOS Setup menus and items may differ depending on your computer model.
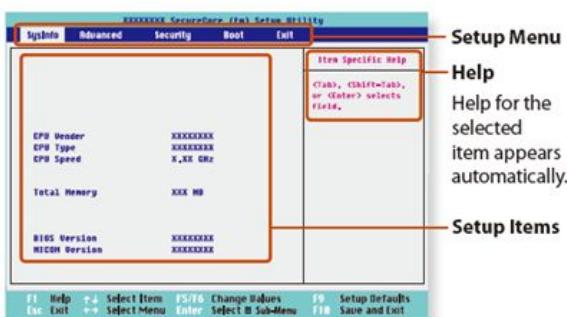
Setup Menu	Description
SysInfo	This is a description about the basic specifications of the computer.
Security	Used to configure security functions, including passwords.
Exit	Used to exit the Setup either saving the changes or not.

※ Menu Setup :
- Select each Setup menu by tapping it.
- **Keyboard Dock :** Arrow key & Enter key

[Ami]

Sys Info	Security	Exit	
Storage Device	e- Multi Media Card		Item Specific Help
			<Tap>,<Shift-Tap>, or <Enter> selects field.
CPU Vendor	Intel (R)		
CPU Type	Atom ™ CPU Z2760		
CPU Speed	1.80 GHz		
Total Memory	2048 MB		→← : Select Screen
			↑↓ : Select Item
			Enter : Select >> Sub-Menu
			F5/F6 : Change Opt.
BIOS Version	E00AAI.195.120904.SH		F1 : General Help
MICOM Version	E00AAI		F3 : Previous Values
			F9 : Optimized Defaults
			F10 : Save and Reset
			ESC : Exit

Total Memory

=> Total memory size of the system.

Sys Info	Security	Exit	
			Item Specific Help
Supervisor Password	Clear		
User Password	Clear		Supervisor Password controls access to the setup utility
Set Supervisor Password			
Set User Password			
Password on boot	[Enabled]		→← : Select Screen
TPM 2.0 Device	[Enabled]		↑↓ : Select Item
▶ Secure Boot Configuration			Enter : Select >> Sub-Menu
			F5/F6 : Change Opt.
			F1 : General Help
			F3 : Previous Values
			F9 : Optimized Defaults
			F10 : Save and Reset
			ESC : Exit

Set the Supervisor Password

=> Supervisor Password controls access to the setup utility.

User Password

=> User Password controls access to a few items in the setup utility.

Password on Boot

=> Supervisor Password controls access to system boot.

TPM 2.0 Device

=> Trusted Computing(TPM) settings

TPM

Secure Boot Configuration

=> Security state

=> Key Management Page ,allows for manual modification of the content of the Secure

Boot variables.PK,KEK, db, dbx : add / delete possibility.

Sys Info	Security	Exit	
			Item Specific Help
Save Changes and Reset			Exit System Setup and save your changes to CMOS.
Discard Changes and Reset			
Restore Defaults			
Discard Changes			
Save Changes			
Boot Override			→← : Select Screen
Windows Boot Manager			↑↓ : Select Item
			Enter : Select >> Sub-Menu
			F5/F6 : Change Opt.
			F1 : General Help
			F3 : Previous Values
			F9 : Optimized Defaults
			F10 : Save and Reset
			ESC : Exit

Save Changes and Reset

=> Exit System Setup and save your changes to CMOS.

Discard Changes and Reset

=> Exit utility without saving Setup data to CMOS.

Restore Defaults

=> default Value

Discard Changes

=> Load previous values from CMOS for all SETUP items.

Save Changes

=> Save Setup Data to CMOS.

Boot Override

=> Boot with selected device

Windows Boot Manager

=> "Windows Boot Manager" OS Boot possibility.

=> When installed Windows8 EFI Mode, Enable OS boot

2.1.9.　H/W Basic constituents

William (500T1C)

| Computer | AC Adapter | Power Cable | Digitizer Pen |

	image	item	Code	Q'ty	Ver
A C C E S S O R I E S		AC Adapter	BA44-00286A	1	1.0
		Power Cable	3903-000444(KOR) 3903-000447(ENG)	1	1.0
		Digitizer Pen	AA-DP2N65B	1	1.0

*Material options

The following options can add or replace materials.

Material types can be added to future

	image	item	Code	Q'ty	Ver
A C C E S S O R Y		Bluetooth Wireless Keyboard	AA-SK7PWBB	1	1.0
		VGA Adapter	AA-AH2NMHB	1	1.0
		Pouch	AA-BS5N11B AA-BS5N11W	1	1.0

MEMORY [on-board type]		
LPDDR	1105-002414	2G copop 14x14 220b
LPDDR	1105-002388	2G copop 14x14 220b
Emmc [on-board type]		
eMMC	1107-002182	169FBGA, 64GB
eMMC	1107-002114	169FBGA, 64GB
Camera		
Front Camera	BA59-03389A	2M+HD, MIPI 1lane, Indicator LED, ALS
Rear Camera	BA59-03280A	8M, MIPI 4lane, Auto Focus
LCD		
LCD Panel	BA59-03485A	11.6" HD, PLS, 400nit, 2.38t,50%, 16.2M

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2.2. Dock

2.2.1. Product Features

Keyboard Dock (AA-RD7NMKD — William /AA-RD8NMKD — Jones)

Expanded experience same as clamshell
- The light users with just Smart PC can use Keyboard, Touchpad and 2 USB port just connect Smart PC with Keyboard Dock
- User can work easier to work or make some documents with Keyboard and Touchpad.
- Use can use Smart PC in comfortable convenience with 2 USB port that give possibility using Ext HDD and USB mouse.

Efficient movement without Separation
- Different with Other Docking, KBD dock use hinge.
  When we carry smart PC and dock, we can just fold it and move.

Additional USB port
- 2 USB Port
- AC adaptor port (It is impossible that connect AC adaptor to system after connecting Smart PC with Keyboard dock)

100% clamshell experience with Keyboard Dock

Docking keyboard to allow quick and easy transformation with
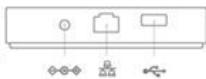
intelligent connector design for simple snap on.

Expand your experience with full size keyboard, touchpad,

2 x USB ports

Stand Dock (AA-RD7NSDO-William/Jones)

1 **Wired internet connection**

The wired internet connection provides a
safe, secure and stable internet connection.

2 **The easy way to connect and charge**

The stand dock simplifies cabling and
provides a convenient 'single click'
connection and easy access to a wide
variety of ports, including 1 x USB, LAN
and DC-in (2.5pi).
When connected to the stand dock, you
can charge your Slate PC using its power
supply. So you'll always be powered-up
and ready to get things done on the move.

■ **Material**
- polycarbonate

■ **Color**
- Black

■ **Specification**
- USB Port x 1 (USB2.0 Interface)
- RJ45 Ethernet Port x 1 (10/100)
- 2.5 Φ DC Jack, Eject Button

■ **Function**
- Extends connection including USB, LAN
- Charge Slate PC

■ **Compatibility**
- Jones, William

2-55

2.2.2.   Specification

Keyboard Dock (AA-RD7NMKD — William /AA-RD8NMKD — Jones)

Processor and Motherboard	
CPU	-
Memory	
Memory / Max. Memory	-
Display & Graphic	
LCD	-
Graphics Controller (Share)	-
Audio	
Sound	-
Controller	
Conversion	
Internal Interfaces	
Speaker Power Rating	
External Interfaces	
Controls	
Storage	
Hard Disk Drive	-
Optical Driver Modules	
Optical Disk Driver	-
Network Tools	
LAN	-
Chipset	
Features	
I/O Interface	
Memory card slot	-
Memory card chip	
Input Devices	
Keyboard	
Type	Island Type
Specification	Height : 3.9 mm / Stroke : 1.5mm / Pitch : 19.05 mm
Key numbers	80 - key (US,KOR,RUS,SEK) 81- Key (UK,FRA, GER, SPA, ITA)
Num Keypad	N/A
Touch pad	Buttonless Touchpad
Express Card Slots	-
I/O Ports	
System Connector	-
USB Port	2 x USB 2.0 ports
USB3.0 Port	-

eSATA Port	-
VGA Port	-
Display Port	-
SIO Port	-
DVI Port	-
Audio Jacks	-
LAN	-
HDMI	-
Security	-
Power	1x DC-in jack for AC adapter
Power and Power Management	
AC Adapter	Not support (Use the adaptor supplied with the computer.)
Output Power	-
Dimension	-
Weight (AC Adapter)	-
Worldwide Compatibility	-
Line Frequency	-
Adapter Rating - Input	-
Adapter Rating - Output	-
System Dimensions	
Business Docking Station	
Size (W X D X H)	304.0 X 189.4 X 23.4 mm (Max)
Weight	714.5g
- Condition	Dock
Package dimensions (W x D x H)	348 X 227 X 36 mm (Max)
Weight	917g
- Condition	System, Manual, Box
Installed software	
Operating system	-
Software	-

Stand Dock (AA-RD7NSDO-William/Jones)

Processor and Motherboard	
CPU	System CPU
Memory	
Memory / Max. Memory	System Memory
Display & Graphic	
LCD	
Graphics Controller (Share)	System Graphics
Audio	
Sound	-
Controller	
Conversion	
Internal Interfaces	
Speaker Power Rating	
External Interfaces	
Controls	
Storage	
Hard Disk Drive	-
Optical Disk Driver	
Optical Disk Driver	-
Network Tools	
LAN	LAN(10/100)
Chipset	
Features	RJ45 Output
I/O Interface	
Memory card slot	-
Memory card chip	
Express Card Slots	-
I/O Ports	
System Connector	1
USB Port	1 x USB 2.0 ports
USB3.0 Port	
eSATA Port	
VGA Port	
Display Port	
SIO Port	
DVI Port	
Audio Jacks	
LAN	RJ45
HDMI	

Power	1x DC-in jack for AC adapter
Power and Power Management	
AC Adapter	Not support (Use the adaptor supplied with the computer.)
Output Power	
Dimension	
Weight (AC Adapter)	
Worldwide Compatibility	
Line Frequency	
Adapter Rating - Input	
Adapter Rating - Output	
System Dimensions	
Business Docking Station	
Dimensions (W X D X H)	100.0mm X 110.0 mm X 22.45mm (W x D x H)
Weight	245g
- Condition	System
Package dimensions (W x D x H)	170mm X 118mm X 36 mm (Max)
Weight	311g
- Condition	System, Manual, Box
Installed software	
Operating system	-
Software	-

2.2.3.　　Comparing product specifications

Stand Dock (AA-RD7NSDO)

◆ **AA-RD7NSDO(Jones/William) vs AA-RD5NDOC(Nike-Tab)**

Customer Segmentation		Jones & William	Nike-Tab
Project		Stand Dock	Cradle
Model name		AA-RD7NSDO	AA-RD5NDOC
ME	CMF	ALL Plastic	All Alumium
Circuit	Communication #1	10/100 USB Ethernet	Giga bit PCI Express Ethernet
	Graphic Port	x	1 x HDMI
	Audio Jack	x	Yes
	I/O Interface	POGO 12 Pin with Latch	40pin Dock connector
		1 x DC-in for AC adapter	1 x DC-in for AC adapter
		1 X USB 2.0	1 X USB 2.0
Spec	Power	YES	YES
	Battery	No	No
	Weight & Dimensions	110mm X 100mm	110mm X 100mm
		22.5mm	17.95mm
		228g	231g
	Indicators	No	Yes

2.2.4. Function of Product

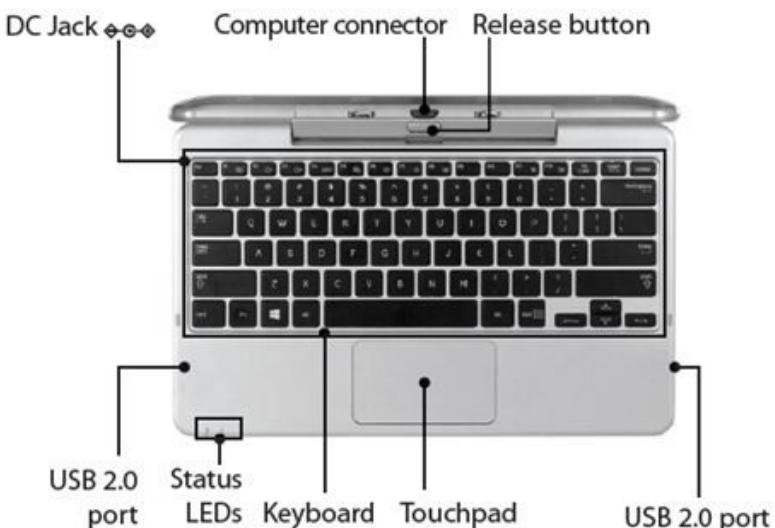### Keyboard Dock (AA-RD7NMKD — William /AA-RD8NMKD — Jones)

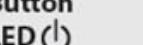◆ **Keyboard Dock (William/AA-RD7NMKD)**

PIC	ITEM	CODE	Q'ty	Ver
	Dock	AA-RD7NMKD	1	

◆ **Keyboard Dock (Jones/AA-RD8NMKD)**

PIC	ITEM	CODE	Q'ty	Ver
	Dock	AA-RD8NMKD	1	

Overview

Status LEDs

1	Caps Lock 🔒	CAPS LOCK LED indicates the capital lock function. You can enable or disable this function with the Caps Lock key on the keyboard. • **On :** The English text you type is in capital letters. • **Off :** The English text you type is in lowercase letters
2	**Power Button LED** ⏻	Power Button LED indicates the status of your computer and keyboard dock. • **On :** Computer and the keyboard dock are successfully connected. • **Blinking :** Computer and the keyboard dock are not connected properly. Separate the devices and install computer again. • **Off :** Computer is in the sleep mode or has no power source. Press the power button to wake up computer.

Using the shortcut key

Press both the Fn key and hot key at the same time.

Shortcut Keys

| Shortcut Keys	Function
F1	Launching the Samsung software control program
F2 F3	Screen Brightness Control
F4	Switching the screen output to the CRT or LCD
F5	Turning the touchpad function on or off
F6	Audio On/Off
F7 F8	Volume Control
F12	Wireless network On/Off

※ BIOS Setup
- **Jones Keyboard Dock** : Continuous press Esc Key.
- **William Keyboard Dock** : Continuous press F2 Key.
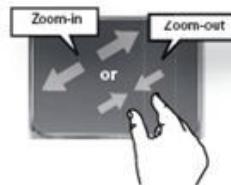
Using the Touchpad

Charms Menu Activating Function
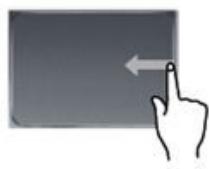
The Scroll Function

or
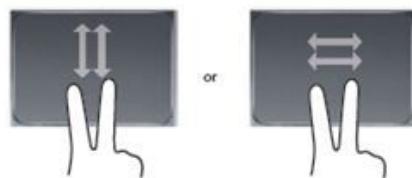
Last Run Window Opening Function

Zoom Functions

Zoom-in Zoom-out

or

Displaying Additional Menu(s) of a Currently Running App

Stand Dock (AA-RD7NSDO-William/Jones)

◆ Stand Dock (Jones/William)

PIC	ITEM	CODE	O'ty	Ver
	Stand Dock	AA-RD7NSDO	1	

Overview

Front

Computer connector
Release button

Rear

USB 2.0 port
DC jack   Wired LAN port

1	Computer connector	You can connect the computer and the stand dock with this connector.
2	Release button	Press this button to release the computer from the stand dock.
3	DC jack ⊖⬤⊕	A jack to connect the AC adapter that supplies power to the computer.
4	Wired LAN port 🖧	Connect the Ethernet cable to this port.
5	USB 2.0 port ⟜	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc.

2.2.5. HW Basic Item & Option

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Keyboard Dock (AA-RD7NMKD — William /AA-RD8NMKD — Jones)

Basic Item

You can use keyboard and multiple USB ports by connecting the keyboard dock to a compatible Samsung computer.

Keyboard Dock

※ Use the adaptor supplied with the computer.
Alternatively, you can purchase a separate adaptor.

Stand Dock (AA-RD7NSDO-William/Jones)

Basic Item

You can stand your Samsung computer by connecting the stand dock.
You can also use various types of ports By connecting the stand dock to a compatible Samsung computer.

Stand Dock

※ Use the adaptor supplied with the computer.
Alternatively, you can purchase a separate adaptor.